

Author: Erik Olbeter <eolbeter@access.digex.net> at internet
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Subject: Testimony of Erik R. Olbeter, Economic Strategy Institute
TESTIMONY OF ERIK R. OLBETER
DIRECTOR, ADVANCED TELECOM AND INFORMATION TECHNOLOGY PROGRAM
ECONOMIC STRATEGY INSTITUTE
BEFORE THE SENATE COMMERCE, SCIENCE, AND TRANSPORTATION SUBCOMMITTEE ON
COMMUNICATIONS
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Good morning Mr. Chairman and Senators. My name is Erik Olbeter and I am Director of the Advanced Telecom and Information Technology Program at the Economic Strategy Institute. I would like to thank the Committee for the opportunity to speak today. I would also like to commend the Committee for addressing this critical issue, which, to this point, has been overlooked by most state and federal regulators.

The key points of my testimony are as follows:

1. Broadband networks are crucial to America's future economic growth. These networks will serve as the platform upon which a large and growing segment of the U.S. economy will do business in the future and upon which hundreds of thousands of workers will depend for their livelihood.
2. Current investment in broadband networks is lagging behind current and projected demand. Specifically, the local exchange lacks the technology to provide the next generation of broadband services and network applications.
3. The lack of investment is caused, in part, by FCC rules that hold back investment, or, sometimes, by lack of rules. Moreover, the FCC has not sufficiently enforced the pro-competition rules necessary to encourage significant new investment by entrants.
4. The FCC must take action to spur the deployment of broadband networks, and its actions should be guided by three simple principles. In order to ensure that Americans have access to broadband networks, any FCC action should be (a) carrier-neutral, (b) technology-neutral, and (c) pro-competition.

Broadband networks are crucial for America's future. Not only are broadband technologies preparing to reshape the telecom and IT industries, they also provide a burgeoning foundation for some of America's fastest-growing and most promising sectors. Few other infrastructures are as important to the long-term growth and prosperity of the United States, for example, as the Internet (including intranets and other electronic networks.) Not only is the sector itself growing at a blistering pace, the Internet is also fostering growth and productivity in existing industries, as well as entirely new industries. Consequently, growth and proliferation of broadband data networks have the potential to impact every sector of the American economy, from apple farming to semiconductor production.

This sector is also becoming an especially important part of the foundation for all communications and information technology (IT) industries. For example, computer, semiconductor, telephone service, and network equipment sales, are increasingly driven by the use and proliferation of the Internet. IT-dependent industries generated more than \$938 billion in revenue in 1997. Each of them is growing far faster than the national GDP, and, in fact, they are driving economic growth. A recent Department of Commerce study estimates that IT industries will account for 8.2 percent of the entire economy this year, up from 6.4 percent in 1993. IT also accounted for almost half of economic growth in 1995, and ESI believes the majority of this contribution has been related to the development and use of data networks.

Data networks are also spurring entirely new industries that could be America's growth engines over the next twenty years. Three industries are particularly exciting: electronic commerce, telemedicine, and distance learning.

Observers from Main Street to Wall Street are starting to realize that the current spurt of economic growth brought about by the IT revolution will not

last forever. The next future economic engine may well be networked applications, such as e-commerce, telemedicine, distance learning, and others that users may invent in their garages and basements. The real promise of broadband networks is not in physical plant and fiber-optic cables but, rather, in applications, and in the provision of a tool with which users can introduce innovations and products that satisfy market demand and create new industries unto themselves.

However, none of these industries will ever develop in a world where Americans must dial at slow speeds. Ubiquitous broadband networks are essential.

The problem is that, unless one is a large corporation or a very wealthy individual who can afford dedicated access, one can not get fast network connections, and the networks are not being built fast enough to meet the rising demand for broadband network connections. One company has forecast that demand for broadband networks will be more than 15 million households by the year 2003, but, at present, not even current demand is being met.

Incumbent-local-exchange-company (ILEC) investment in modernization and maintenance is down for the last five years. Competitive local exchange companies (CLECs) have laid more than a half-million access lines, as of September 1997, but that pales in comparison to the more than 154 million access lines in America. While cable companies have experimented with broadband services, these trials have been limited to date. Terrestrial wireless carriers are currently investing heavily, through auctions, but broadband network rollout (third-generation cellular, LMDS, MMDS) appears to be years away, as is satellite service from companies such as Teledesic and Celestri.

Moreover, little of the investment being made today is focused on residential consumers.

So, if the demand exists, why are firms not investing?

The answer is not as simple as one might wish. At a recent ESI conference on broadband network deployment, representatives from every major segment of the telecom industry expressed their desire to deploy broadband networks, and I have submitted the transcript of that conference for the Commerce Committee's review. It was obvious at the conference that technological uncertainty and business fundamentals influence investment, but so does regulatory policy. More specifically, a lack of regulatory enforcement, as well as the influence of some existing rules, are deterring investment in broadband networks.

Speaker after speaker documented the regulation-generated problems that they face on a daily basis, illustrating how Commission rules impact incentives to innovate and invest in numerous and dynamic ways. These incentives affect both the level and the composition of investment in the telecom sector, as well as in the sectors that rely on telecommunications as their core delivery medium. In turn, the level/composition of investment in the telecom sector also impacts the value of investment and assets, as well as the incentives to invest, in closely related sectors that: (1) provide goods and services to the telecom sector, and (2) use telecom networks as complementary inputs. These sectors include producers of computers, computer components, software, online services, information services, data network, and telecommunications equipment and electronic commerce.

For a more detailed analysis of how the FCC's rules and regulations affect investment decisions, I have included a paper written by Dr. Larry Darby, an Adjunct Fellow at ESI, as supplemental material.

What, then, should the FCC do, or not do? The FCC should launch a Section 706 Notice of Inquiry as soon as possible. ESI's view is that Section 706 is the ideal vehicle for gaining a better view of how investment decisions have been skewed by Commission rules and regulations. The FCC knows the questions that need to be investigated. Most lobbyists will tell you they know the answers. However, as a community, we have not reached the point where enough research has been done to determine what rule changes are necessary.

In ESI's Comments before the Commission on Section 706 petitions introduced by Ameritech, Bell Atlantic, US West, and the Alliance for Public Technology, ESI has identified three principles that should guide the FCC's proceedings. These Comments are also being submitted for the Commerce Committee's review.

ESI believes that, if the three principles suggested in our Comments are adhered to, the FCC will be able expeditiously to identify and remove rules that inhibit investment, and to reinforce rules that promote competition and investment. This

is based on ESI's belief that a country with multiple, competitive providers of broadband services will serve the public interest better than any single provider will.

Principle One: A Section 706 proceeding should be carrier-neutral.

Any FCC proceeding should examine the problems that all entrants and incumbents face in deploying broadband networks.

The petitions-to-date focus exclusively on promoting ILEC investment, disregarding investment by all existing and future players. The effect of these petitions would not be to optimize broadband investment, but to attempt to maximize ILEC broadband investment without regard for total or efficient investment. The time-honored name given to such a policy approach is "industrial policy," backed by a long history of government policies that designated a national champion in infrastructure. History and experience indicate that picking winners and losers in this fast moving industry would inevitably stifle innovation and lead to less investment.

The best example of this is Minitel. In the early 1980s, newspapers across the United States screamed that America was falling behind the French in information technology. The reason for their alarm was Minitel, the French data network connecting every home to a national network, built and controlled by France Telecom. The good thing about Minitel was its relative ubiquity. The bad news was that it locked the entire country into a single platform that was inflexible and indifferent to innovation. Innovations were introduced only when France Telecom wanted, not when users demanded them. As a result, France failed to produce significant software and data networking industries, even though they were the first country online.

Establishing rules that benefit one provider, or one set of suppliers of broadband networks, without regard for others, would be tantamount to establishing an American version of Minitel. The FCC should stick, instead, to the principle of being carrier-neutral.

Principle Two: A Section 706 proceeding should be technology-neutral.

This is another principle that everyone can probably agree to, but it has some rather significant implications for an FCC proceeding. Any proceeding should examine the state of investment, and the impact of rules on investment, in every sector having the ability or desire to offer these services.

This hearing today demonstrates that a broad range of players have an interest in this market: cable, telcos, satellite, electricity companies, cellular/PCS, and other wireless providers. It would be negligent not to examine the impact of Commission rules on each and every one of the potential market entrants. Failure to promote broadband investment by all interested parties could lead to a single platform (e.g., the telephone network) being the only real source of broadband network applications. For example, Commission action to promote telephone deployment of broadband network, without similar consideration for other platforms, could leave other potential providers at a competitive disadvantage.

The point that multiple platforms are better than any single platform is illustrated by Apple's introduction of the Macintosh. Prior to the Macintosh, computer users were locked into the IBM platform. To its credit, IBM did a pretty good job of handling the needs of most businesses, but the Macintosh launched entirely new industries. It provided the platform upon which a small company called Aldus, for example, could publish a little-known product called Pagemaker, and thus was born the desktop publishing business. Interestingly, Apple did not start the revolution that made its computers so popular but, rather, it simply provided a platform that allowed users to create their own applications.

Producing rules and regulations that promote multiple broadband platforms will allow users to create the e-commerce applications that spur tomorrow's efficiency, productivity, and jobs; so the FCC should adhere to the principle of being technology-neutral.

Principle Three: A Section 706 proceeding should be pro-competition.

It is often said that competition will spur investment. While competition policy may not always be enough to maximize investment, the old axiom still applies. Throughout the history of this industry, technological innovation, combined with competition, has spurred deployment of advanced systems.

For example, the two major shifts in AT&T's long-distance network occurred directly after the establishment of a competitive, more advanced system. In 1988, AT&T took the single largest write-off in history to upgrade its analog network to digital. The accounting write-off of almost \$6.7 billion in long-distance network equipment, precipitated by Sprint's "Pin Drop," was not something AT&T would have done of its own accord. Today, AT&T again is rapidly revamping its long-distance network, in order to compete with newcomer Qwest, and others. This same pattern would emerge in the local market, if there were competition for information and Internet access.

Today, new competitors are attempting to enter the market and provide these services, but, for the foreseeable future, their ability to enter and compete on a level playing field will be dependent on government regulations (i.e. competition policy.) Broadband investment by new entrants in different sectors, whether CLECs, wireless providers, or satellite companies, will be a crucial part of the entire investment picture. As such, the enforcement of competitive entry rules needs to be taken very seriously.

Competitive investment is a key to innovation. The goal of Section 706 proceeding should not be to supplant competition policy with an investment policy but, rather, to ensure that current rules allow for the maximum amount of efficient investment.

To conclude, America has an important advantage in the deployment and development of critical broadband infrastructures, but, if the current regulatory regime is not altered to act as a promoter of broadband network investment, America may find itself following the lead of other countries in the future.

The FCC should take a serious look at the lack of investment occurring in broadband networks. Presently, there are far more questions than answers in the search for rules and regulations that promote investment. The Commission should initiate a proceeding in the next month to investigate these questions and to launch an official Notice of Proposed Rulemaking (NPRM) as expeditiously as possible.

Thank you for this opportunity to speak before you.